

CLAIM AMENDMENTS

Claim 1. (original)

A process for extraction of pollutants from sub-surface water comprising:

(a) introducing an aqueous cyclodextrin solution into a sub-surface area containing water with pollutants;

(b) allowing said aqueous cyclodextrin solution to flow downward through said sub-surface area to form complexes with said pollutants; and

(c) recovering water with said complexes from below where said aqueous solution was introduced into said sub-surface area.

Claim 2. (original)

The process of claim 1 further comprising:

(d) separating said complex into cyclodextrin and pollutant;
and

(e) recycling said cyclodextrin to reintroduce said cyclodextrin into said sub-surface area.

Claim 3. (original)

The process of claim 1 wherein said cyclodextrin is selected from the group consisting of alpha-cyclodextrin, beta-cyclodextrin, gamma-cyclodextrin, derivatives of cyclodextrins, and

mixtures thereof.

Claim 4. (original)

The process of claim 1 wherein said aqueous cyclodextrin solution has a concentration of about 1% to about 30% by weight solution of cyclodextrin.

Claim 5. (currently amended)

The process of claim 1 wherein the pollutant is ~~selected from the group of organic and inorganic pollutants.~~

Claim 6. (original)

The process of claim 1 wherein a vertical circulating well is used to introduce said aqueous cyclodextrin solution and recover said water and complex.

Claim 7. (original)

The method of claim 2 wherein said separating is conducted by air stripping said pollutant from said cyclodextrin.

Claim 8. (original)

The process of claim 1 wherein said pollutant is trichloroethane and said cyclodextrin is hydroxypropylated beta-cyclodextrin.

Claim 9. (currently amended)

~~In a~~ A process for extracting pollutants from sub-surface water ~~using a vertical circulating well, the improvement comprising:~~

using a vertical circulating well having a diffuser ring for introducing water in said well and a sub-surface pump for removing water from said well, said sub-surface pump positioned below said diffuser ring in said well;

adding cyclodextrin to water introduced into said ~~the~~ well through said ~~a~~ diffuser ring; and

recovering ~~so as to recover~~ complexes of cyclodextrin and pollutants from said well with said sub-surface pump at a point below said diffuser ring.

Claim 10. (original)

The process of claim 9 wherein said cyclodextrin in said water introduced into said well is present in a concentration of about 1% to about 30% by weight of mixture of water and cyclodextrin.

Claim 11. (original)

The process of claim 9 further comprising separating said recovered complex into cyclodextrin and pollutant, and recycling said cyclodextrin.

Claim 12.(original)

The process of claim 9 wherein said cyclodextrin is selected from the group consisting of alpha-cyclodextrin, beta-cyclodextrin, gamma-cyclodextrin, derivatives of cyclodextrin, and mixtures thereof.

Claim 13.(original)

A process for extraction of trichloroethene from an aquifer comprising:

(a) forming a vertical circulating well in a sub-surface area polluted with trichloroethene;

(b) introducing an aqueous hydroxypropylated beta-cyclodextrin solution into said sub-surface area with a diffuser ring of said well;

(c) allowing said solution to flow downward through said sub-surface area to form complexes between said cyclodextrin and said trichloroethene;

(d) recovering water at the bottom of said well with said complexes therein;

(e) separating said complex by air stripping into cyclodextrin and trichloroethene; and

(f) recycling cyclodextrin after separation from the complex back to step (b).

Claim 14. (new)

The process of claim 1 wherein the pollutant is organic pollutants.